



UNITED STATES PATENT AND TRADEMARK OFFICE

Eber

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/648,019	08/25/2000	Kenneth Y. Maxham	23106/77099	4564
24587	7590	06/23/2005		
EXAMINER				
PAYNE, DAVID C				
ART UNIT		PAPER NUMBER		
		2638		

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/648,019	MAXHAM, KENNETH Y.
Examiner	Art Unit	
David C. Payne	2638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 02 March 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,3,4,6,7 and 9-15 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,3,4,6,7 and 9-15 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 3, 4, 6, 7 and 9-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. Claims 1, 3, 4, 6, 7, and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czarnocha et al. US 6,504,630 B1 (Czarnocha) in view of Fee US 5,995,256 (Fee), Nakazato US 6,599,039 B1 (Nakazato) and Arends US 4,330,870 (Arends).

Regarding claims 1, 6, 7 and 10, Czarnocha disclosed

A fiber optic communications network (Figures 1 and 6) that has a means for activating a shutdown input (116, 126 of Figure 1) of an optical amplifier ((111, 121 of Figure 1), (612, 616 of Figure 6)) if the predetermined number of received valid signals is not detected (e.g., col./lines: 5/35-60, 10/20-25).

Czarnocha does not disclose,

a transmitter and a receiver connected by an optical transmission line, the receiver having multiple output channels for providing signals to terminal devices, each output channel including a demodulator to detect and recover a received valid signal, and a network including at least one optical amplifier having a shutdown input, a system for detecting a disconnect in the optical transmission line comprising:

means connected to each demodulator for sensing the presence of a received valid signal;

Art Unit: 2638

means for detecting whether a predetermined number of received valid data signals are present at a predetermined number of the multiple demodulators;

Fee disclosed,

a transmitter (520 of Figure 5) and a receiver (540 of Figure 5) connected by an optical transmission line (530 of Figure 5), the receiver (or wavelength adapter as disclosed by applicant) having multiple output channels (542 of Figure 5) for providing signals to terminal devices (e.g., col./line: 5/30-35), each output channel including a demodulator to detect and recover a received valid signal (e.g., col./line: 3/20-25):

it would have been obvious to one of ordinary skill in the art at the time of invention to use the transmitter, receiver and demodulators of Fee in the Czarnocha invention since the aforementioned components are implied in the Czarnocha invention and are well recognized and necessary for transmitting and receiving optical signals.

Nakazato disclosed,

means for detecting whether a predetermined number of received valid signals are present (e.g., col./line: 27/36-41). It would have been obvious to one of ordinary skill in the art at the time of invention to count the number of valid signals to determine a loss of signal in the Czarnocha invention in order to distinguish between an increase/decrease in number of light signals and a simple loss variation in signal level of the transmission path as disclosed by Nakazato (see col./line: 17/30-45).

Arends disclosed,

an optical data link with a clock-loss detection network that provides a clock-loss indication to the microprocessor if the system clock cannot be accurately recovered. In response, the microprocessor can shut-down the optical data link, (see col./line: 3/65-67, 4/1-5).

At the receive-end of the optical data link, receiver optics 30 converts impinging optical energy (consisting of a portion of the transmitted modulated light beam together with superimposed noise) into an electrical data signal that is coupled to receiver channel 80. In the receiver channel, the data signal is amplified by a gain-controlled amplifier 90, with noise superimposed on the data signal being filtered out by a low pass filter 91. The amplified data signal is applied to a decode network 100 which recovers the system clock and decodes the data signal to recover the transmitted information. The recovered data stream is coupled to interface line transmitter 45T for voltage level conversion and transmission to the receive-end utilization devices, (see col./line: 5/35-50).

Furthermore Arena disclosed, the design of beginning-of-message detector 65 and end-of-message detector 66 must be tailored to the format of the particular data signal scheme. Typically, they will include address recognition circuitry for recognizing the beginning-of-message and end-of-message address codes transmitted as part of each message packet, (see col./line: 8/60-65). It would have been obvious to one of ordinary skill in the art at the time of invention to use the Arena demodulation detection scheme in the Czarnocha invention since it may be preferable to terminate transmission

Art Unit: 2638

rather than send error prone data as would be the case if the signal-to-noise ration deteriorated to the extent that phase lock loop network was unable to recover the system clock, (see col./line: 12/40-55).

Re claims 3 and 9,

the modified invention of Czarnocha, Fee, Nakazato and Arends does not disclose, means for determining a ratio of valid signals to demodulators. However it would have been obvious to one of ordinary skill in the art the time of invention to calculate a ratio of valid signals since Czarnocha does disclose performing shutdown if both data and supervisory signal is missing. This constitutes a ratio of 1/1, or 2 signals / 2 demodulators. In other words, it is obvious since the number of valid signals is less than the number of demodulators then a failure has occurred in the system. Furthermore, many WDM systems monitors detect the presence of signals, whether or not a ratio calculated is not patentable over detecting whether one signal has failed since a failure of one signal is a ratio of 1/n.

Re claim 4, the modified invention of Czarnocha, Fee, Nakazato and Arends disclosed,

wherein said means for determining the number of valid signals includes a counter (see Nakazato col./line: 1:60-65) for counting the number of said demodulators in operation.

Re claim 11, the modified invention of Czarnocha, Fee, Nakazato and Arends disclosed, wherein each of the plurality of receive wavelength adapters output a loss of signal if the received power of the inputted wavelength is lost (see Nakazato col./line: 17/30-45).

Re claims 12 and 13, the modified invention of Czarnocha, Fee, Nakazato and Arends disclosed,

wherein the at least one associated optical amplifier amplifies the received WDM signal (see Czarnocha 612, 616 of Figure 6).

Re claims 14 and 15, the modified invention of Czarnocha, Fee, Nakazato and Arends disclosed,

wherein the at least one associated optical amplifier is located at the optical node (see Czarnocha 612, 616 of Figure 6).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp



David C. Payne
Patent Examiner
AU 2638